

REMARKS

Claims 16 and 19-23 are pending in this application. By the Office Action, claims 16-23 are rejected and claims 1-15 and 24-25 are withdrawn from consideration. By this Amendment, claims 1-15, 17-18 and 24-25 are canceled and claim 16 is amended. Support for amended claim 16 can be found in the specification at least at pages 45 and 49, the examples at page 55, and the examples at pages 62-64. Thus, no new matter is added. In view of the amendments and the following remarks, reconsideration and allowance are respectfully requested.

The courtesies extended to Applicants' representative by Examiners Lish and Hendrickson at the July 25, 2003 personal interview are appreciated. The reasons presented at the interview as warranting favorable action are incorporated into the remarks below and constitute Applicants' record of the interview.

I. Election/Restriction

The Office Action requires restriction to one of the following:

Group I: Claims 1-13, 15 and 25 drawn to a nanowire;

Group II: Claims 16-23, drawn to a method of producing a nanowire;

Group III: Claim 14, drawn to a nanonetwork;

Group IV: Claim 24, drawn to a method of producing a nanonetwork.

In the May 27, 2003 telephone conference with the Examiner, Applicants provisionally elected Group II, claims 16-23, with traverse. In this response, Applicants herein affirm the election of Group II, claims 16-23, with traverse.

In the interest of advancing prosecution, Applicants herein cancel non-elected claims 1-15 and 24-25.

II. Rejections under §102**A. Ago et al.**

The Office Action rejects claims 16, 20-21 and 23 under 35 U.S.C. §102(b) over Ago et al., *J. Phys. Chem. B* (1999), 103, 8116 ("Ago"). Applicants respectfully traverse the rejection for at least the following reasons.

Amended claim 16 includes features from non-rejected dependent claims 17 and 18 that the Office Action indicates are not taught by Ago. Specifically, claim 16 is directed to a method for producing a nanowire, that includes a modification treatment that is a combination of (1) a mechanochemical treatment and (2) at least one treatment selected from a group consisting of a heating treatment and an acidic solvent treatment, performed sequentially in that order. The Office action recognizes that Ago does not teach this method.

According, Applicants respectfully request reconsideration and withdrawal of this rejection.

B. Niu et al.

The Office Action rejects claims 16-23 under 35 U.S.C. §102(e), or in the alternative under 35 U.S.C. §103(a), over U.S. 2003/0039604 A1 to Niu et al. ("Niu"). Applicants respectfully traverse the rejection for at least the following reasons.

Niu describes a method for treating aggregated carbon nanotubes under oxidation conditions, reportedly providing improved disaggregation and increased dispersion in solvents (par. 0069). Niu utilizes a peroxygen compound and teaches in one embodiment the additional use of a high-shear mixer, followed by ultrasonication, for improved dispersion (par. 0121-22). Niu does not teach or suggest the treatment as claimed.

As detailed above, independent claim 16 is directed to a method for producing a nanowire including a modification treatment that is a combination of (1) a mechanochemical treatment and (2) at least one treatment selected from a group consisting of a heating

treatment and an acidic solvent treatment, performed sequentially in that order. Niu fails to teach or suggest any heating or acidic solvent treatment. Niu's teachings are limited to ultrasonication for improved dispersion of aggregated nanotubes. Niu does not teach or suggest the claimed modification treatment of the claimed invention, and fails to provide any motivation to modify the disclosed process to practice the claimed invention. As such, Niu does not anticipate, and would not have rendered obvious, the method of claims 16 and 19-23. Claims 17-18 are canceled thus rendering their rejection moot.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection.

C. Zhou

The Office Action rejects claims 16-21 and 23 under 35 U.S.C. §102(e), or in the alternative under 35 U.S.C. §103(a), over U.S. 2002/0193040 A1 to Zhou ("Zhou").

Applicants respectfully traverse the rejection for at least the following reasons.

Zhou describes a method for treating nanotubes that includes a purification step of keeping the nanotubes suspended in an acidic medium by using an ultrasonic horn (par. 0043). Zhou then teaches further processing (i.e., cutting) the purified nanotubes by a mechanical method, such as by ball milling (par. 0045). Zhou also describes an alternative cutting method that involves acid treatment and sonication (par. 0046). However, nowhere does Zhou teach or suggest (1) a mechanical treatment, followed by (2) a heating treatment and/or an acidic solvent treatment. Zhou does not teach or suggest the claimed modification treatment of the claimed invention, and fails to provide any motivation to modify the disclosed process to practice the claimed invention. Thus, Zhou does not anticipate, and would not have rendered obvious claims 16, 19-21 and 23. Claims 17-18 are canceled thus rendering their rejection moot.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection.

III. Rejection under §103

The Office Action rejects, under 35 U.S.C. §103(a), claims 19 and 23 over Niu, and claims 19 and 23 over Zhou. Applicants respectfully traverse the rejections.

As detailed above, Niu and Zhou both do not teach or suggest the claim 16 modification treatment that includes a mechanochemical treatment and a heating and/or an acidic solvent treatment, performed sequentially. Claims 19 and 23 depend from claim 16 and thus could not have been rendered obvious by either Niu or Zhou for at least the reasons described above.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection.

IV. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 16 and 19-23 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Date: September 22, 2003

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